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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,450	12/20/2001	Ricky Alton Adams	KCC-15,860	4839
35844	7590	03/01/2004	EXAMINER	
PAULEY PETERSEN KINNE & ERICKSON 2800 WEST HIGGINS ROAD SUITE 365 HOFFMAN ESTATES, IL 60195			BOYD, JENNIFER A	
			ART UNIT	PAPER NUMBER
			1771	
DATE MAILED: 03/01/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<b>Application No.</b> 10/037,450	<b>Applicant(s)</b> ADAMS ET AL.	
	<b>Examiner</b> Jennifer A Boyd	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/01/03</u> . | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Response to Amendment***

1. The Applicant's Amendments and Accompanying Remarks, filed December 1, 2003, have been entered and have been carefully considered. Claims 1 – 4, 6 – 9, 11 – 14, 17 – 20, 22 – 23 and 27 are amended, claims 28 – 30 are cancelled, and claims 1 – 27 are pending. In view of Applicant's Amendment, the Examiner withdraws the claim objections as set forth in paragraph 1 of the previous Office Action mailed August 20, 2003. The Examiner withdraws the 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejection of claims 2 – 3, 6 – 7, 13 – 14, 17 and 18 as set forth in paragraphs 4 – 5 of the previous Office Action mailed August 20, 2003. In view of Applicant's Amendments, the Examiner withdraws all previously set forth rejections as stated in paragraphs 6 – 8 of the previous Office Action mailed August 20, 2003. Despite these advances, the invention as currently claimed is not found to be patentable for reasons herein below.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Everett (US 6,437,214).

Everett is directed to a layered absorbent structure with a zoned basis weight and a heterogeneous layer region (Title).

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Everett teaches that the fibers in one or more of the primary layers 48 and 50 can include fibers combined with particles of high-absorbency material (column 14, lines 25 – 30). Everett notes that two or more different types of superabsorbent material may be selectively positioned at different locations within or along the fiber matrix (column 14, lines 55 – 60). The Examiner equates primary layer 48 to Applicant's "first layer" and the primary layer 50 to Applicant's "second layer". Therefore, in one embodiment, the primary layer 48, or "first layer", can comprise fibers and particles of a high-absorbency material and the primary layer 50, or "second layer", can comprise two different types of superabsorbent material selectively positioned. It should be noted that at least one of the two superabsorbent materials of primary layer 50, or "second layer", would comprise a different superabsorbent material creating a z-direction gradient of different superabsorbent compositions.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 – 11, 13 – 22 and 24 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erspamer (WO 01/35886 A1) in view of Allan et al. (US 2001/0037101 A1).

Erspamer is directed to absorbent structures used in a wide range of disposable articles, including baby diapers, adult incontinence products, sanitary napkins and the like (page 2, lines 1 – 5).

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As to claim 1, Erspamer teaches a unitary absorbent core comprising one or more strata of absorbent material, in which one or more of the properties of the basis weight, functional particle content, or density of at least one of the strata is profiled in the y-direction (page 7, lines 15 – 19). Erspamer defines *stratum* as a layer, which is preferably airlaid, comprising deposited fibers, powders including additives and functional particles, such as superabsorbent particles and binders (page 16, lines 6 – 13). The Examiner equates the one or more *strata* to the Applicant's "first layer" and "second layer". Erspamer notes that, in certain embodiments, the structure may be profiled in both the y- and z-directions (page 19, lines 1 - 3). It should be noted that it has been held that the functional "whereby" statement does not define any structure and accordingly can not serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

As to claims 2 and 4 - 5, Erspamer teaches in Example 1 that samples A, B and C are three-strata, unitary absorbent cores. The first or bottom wicking stratum comprises 70 gsm (74 wt. %) of Grade ND-416 pulp (Weyerhaeuser Co.; Tacoma, WA), 7 gsm (7 wt. %) of bicomponent binder fiber and 18 gsm (19 wt. %) of carrier tissue. The middle storage stratum comprises 50 gsm (47 wt. %) of Grade HPF pulp, 50 gsm (47 wt. %) of Favor SXM 70 superabsorbent powder and 7 gsm (6 wt. %) of Grade AL Adhesion-C bicomponent binder fiber (1.7 X 4 mm) (page 56, lines 8 – 13). Erspamer notes that in Samples B and C the second or middle storage stratum has absorbent material concentrated in a zone located at the center of the samples (page 56, lines 15 – 17). It should be noted that the bottom wicking stratum comprises 74 weight percent of Grade ND-416 pulp and the middle storage stratum contains 47 weight percent of Favor SXM 70 superabsorbent powder creating a gradient of compositions of

absorbent in the z-direction and the amount of absorbent which can be calculated in weight percent.

As to claims 6 and 7, Erspamer teaches that the type of fibers can be varied in each stratum (page 36, lines 20 – 25). Erspamer teaches that suitable fibers for the unitary absorbent core include various thermoplastic matrix fibers such as polyethylene, polypropylene and polyester including PET (page 26, lines 17 – 19).

As to claims 8 and 18 - 21, Erspamer teaches in Example 1 that samples A, B and C are three-strata, unitary absorbent cores. The third or top acquisition stratum comprises 25 gsm (80 wt. %) of polyester staple fiber (15 dpf X 6mm, Grade 376X2, Wellman, Inc.; Johnsonville, SC) to which was applied 6 gsm (20 wt. %) of emulsion binder (page 56, lines 4 – 8). The middle storage stratum comprises 50 gsm (47 wt. %) of Grade HPF pulp, 50 gsm (47 wt. %) of Favor SXM 70 superabsorbent powder and 7 gsm (6 wt. %) of Grade AL Adhesion-C bicomponent binder fiber (1.7 X 4 mm) (page 56, lines 8 – 13). Erspamer notes that in Samples B and C the second or middle storage stratum has absorbent material concentrated in a zone located at the center of the samples (page 56, lines 15 – 17). It should be noted that the top stratum contains 80 weight percent of polyester staple fiber (15 dpf X 6mm, Grade 376X2, Wellman, Inc.; Johnsonville, SC) and the middle storage stratum contains 6 weight percent of Grade AL Adhesion-C bicomponent binder fiber (1.7 X 4 mm) creating a gradient in the z-direction of type of polymer used for the thermoplastic fibers, denier of the thermoplastic fibers and amount of thermoplastic fibers which can be calculated in weight percent.

As to claim 9, Erspamer teaches that the amounts of fibers can be varied in each stratum or zone (page 36, lines 20 – 25). Erspamer teaches that suitable fibers for the unitary absorbent

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core include various thermoplastic matrix fibers such as polyethylene, polypropylene and polyester including PET (page 26, lines 17 – 19).

As to claim 10, Erspamer teaches a variation of fiber type as discussed above. A common unit of measurement of fiber or material content is weight percentage.

As to claim 11, Erspamer teaches a unitary absorbent in the density of at least one of the strata is profiled in the y-direction (page 7, lines 15 – 19) and, in some embodiments, in the z-direction (page 19, lines 1 - 3).

As to claim 13, Erspamer teaches that the absorbent can be varied in each stratum or zones. In striped stratum, equated to Applicant's "zones", the finite length can be parceled into discontinuous segments or "intermittently" (page 16, lines 17 – 22).

As to claim 14, Erspamer teaches various types of SAP or superabsorbent polymer particles such as irregular granules, spherical particles, staple fibers and other elongated particles (page 30, lines 1 – 6). Erspamer teaches various particles useful in the invention are available from a number of manufacturers such as Dow Chemical, Stockhausen and Chemdal (page 30, lines 10 – 14). It should be noted that different superabsorbent compositions would have different swelling rates.

As to claim 15, Erspamer teaches that the amount of functional particles, such as superabsorbent polymers (SAPs), can be varied in zones (page 36, lines 20 – 25) which are considered to be absorbent materials. In striped stratum, equated to Applicant's "zones", the finite length can be parceled into discontinuous segments or "intermittently" (page 16, lines 17 – 22).

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As to claim 16, Erspamer teaches a variation in the amount of absorbent as discussed above. A common unit of measurement of fiber or material content is weight percentage.

As to claim 17, Erspamer teaches that the type of polymer used for the thermoplastic fibers can be varied in each stratum or zones (page 36, lines 20 – 25). In striped stratum, equated to Applicant's "zones", the finite length can be parceled into discontinuous segments or "intermittently" (page 16, lines 17 – 22).

As to claim 22, Erspamer teaches that the density can be varied in each stratum or zones (page 36, lines 20 – 25). In striped stratum, equated to Applicant's "zones", the finite length can be parceled into discontinuous segments or "intermittently" (page 16, lines 17 – 22).

As to claim 24, Erspamer teaches that individualized fibers optionally mixed with functional particles are air conveyed to one or more forming heads on an airlaid web forming machine. The forming head disposes the stratum in the forming wire (page 34, lines 6 – 12). Because the stratum are not made into separate layers and then integrated together, the procedure as described creates comparatively less defined boundaries between the stratum.

As to claim 25, Erspamer teaches that in some embodiments the structures of the invention contain carrier tissues for the stratum (page 34, lines 13 – 15).

As to claim 26, Erspamer teaches that the core is prepared as an airlaid web (page 34, lines 6 – 8).

As to claim 27, the details of the patent are discussed above.

As to claims 1, 3 and 27, Erspamer teaches that the first and second layers can comprise superabsorbent materials but fails to teach that the second layer can comprise two different



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compositions of superabsorbent material, at least one of the two compositions of superabsorbent material being a second superabsorbent material composition different from the first superabsorbent material composition of the first layer as required by claim 1. Erspamer fails to teach that the different compositions of superabsorbent material are selected between species of superabsorbent materials having different swelling rates as required by claim 3.

Allan et al. is directed to tagged superabsorbent polymers in a multicomponent structure for use in absorbent structures such as diapers, adult incontinence devices and sanitary napkins (Title and Abstract). As seen in Figure 1, the diaper contains two distinct superabsorbing regions, the insult region (12), which contains a SAP of high permeability and slow absorption and the retention region (14), which contains a SAP of low permeability and high retention (page 2, [0018]). It should be noted that the SAP in the two different regions are different in nature and, therefore, would have two different swelling rates. It should be noted that the shape, size and location of these regions are chosen to maximize the structure's effectiveness in carrying the fluids away from the point of insult and containing them in a separate region (page 1, [0003]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to Allan's material with two distinct superabsorbing regions in the second layer of Erspamer motivated by the desire to maximize the structure's effectiveness in carrying the fluids away from the point of insult and containing them in a separate region.

6. Claims 1, 12 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenfeld (EP 1,110,528 A2) in view of Allan et al. (US 2001/0037101 A1).

Rosenfeld is directed to disposable absorbent articles used for absorbing body fluids and

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other exudates (column 1, lines 13 – 15).

As to claim 1, Rosenfeld teaches an absorbent structure which has an integral structure and includes a first high absorbency zone separated from a second high absorbency zone by a portion of the thickness of the absorbent element. The high absorbency zones have absorbent fibers and superabsorbent polymer particles (Abstract). The first and second high absorbency zones are equated to Applicant's "first layer" and "second layer". It should be noted that is not necessary that the zones contain the same percentage or the same type of superabsorbent polymer particles (column 8, lines 25 – 30), therefore, the zones can have different compositions creating a gradient in the z-direction. The high absorbency zones can extend across the entire surface of the absorbent element or may be confined to one or more localized regions such as being solely in a central region (column 9, lines 30 – 40).

As to claim 12, Rosenfeld teaches that the absorbent structure can have the first high absorbency zone thickness be different than the second high absorbency thickness (column 7, lines 40 – 47), creating a gradient in the z-direction.

As to claim 23, Rosenfeld teaches that the thickness of the first and second high absorbency zones may be uniform through the expanse of the element or have a tapered profile in certain areas, such as the central region, which are thicker than other areas (column 9, lines 50 – 57).

Rosenfeld teaches that the first and second layers can comprise superabsorbent materials but fails to teach that the second layer can comprise two different compositions of superabsorbent material, at least one of the two compositions of superabsorbent material being a

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second superabsorbent material composition different from the first superabsorbent material composition of the first layer as required by claim 1.

Allan et al. is directed to tagged superabsorbent polymers in a multicomponent structure for use in absorbent structures such as diapers, adult incontinence devices and sanitary napkins (Title and Abstract). As seen in Figure 1, the diaper contains two distinct superabsorbing regions, the insult region (12), which contains a SAP of high permeability and slow absorption and the retention region (14), which contains a SAP of low permeability and high retention (page 2, [0018]). It should be noted that the SAP in the two different regions are different in nature and, therefore, would have two different swelling rates. It should be noted that the shape, size and location of these regions are chosen to maximize the structure's effectiveness in carrying the fluids away from the point of insult and containing them in a separate region (page 1, [0003]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to Allan's material with two distinct superabsorbing regions in the second layer of Rosenfeld motivated by the desire to maximize the structure's effectiveness in carrying the fluids away from the point of insult and containing them in a separate region.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1 – 27 have been considered but are moot in view of the new ground(s) of rejection.

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*Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
Jennifer Boyd  
February 16, 2004

  
**Ula C. Ruddock**  
Primary Examiner  
Tech Center 1700